MAS in Extended Intelligence

Study Plan

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15.09.2022

The MAS Extended Intelligence is a university study program leading to a "Master of Advanced Studies in Extended Intelligence" awarded by the University of Bern (MAS XI Unibe) as laid out in the regulations of the Faculty of Science of the University of Bern for the continuing education programs in Extended Intelligence of 2021-12-09.

1. MAS Objectives

Objectives

In addition to the learning objectives of the CAS programs in Applied Data Science (CAS ADS, mandatory), Advanced Machine Learning (CAS AML, mandatory) and an additional CAS in either Natural Language Processing (CAS NLP, elective) or Advanced Statistical Data Science (CAS ASDS at the Institute for Mathematical Statistics and Insurance Studies, elective) participants are able to independently design and implement an extended intelligence project with current machine learning methods as part of their MAS work and to communicate such projects at a publication-ready level. By including what has been learned from three CAS programs, they show an expanded interdisciplinarity and an increased perspectivity.

2. Duration, Outcomes and Objectives of individual Elements

Scope

The program comprises at least 62 ECTS credits. It consists of the CAS ADS (16 ECTS, mandatory), the CAS AML (16 ECTS, mandatory), either the CAS NLP (16 ECTS, elective) or the CAS ASDS of the Institute for Mathematical Statistics and Insurance Studies (16 ECTS, elective), a MAS module (2 ECTS) and a MAS thesis (12 ECTS). The modules and performance assessments of the study programs CAS ADS, CAS AML, CAS NLP and CAS ASDS are regulated in the respective study plans.

MAS Module

The module comprises 60 hours (2 ECTS credits) of which 24 (3 days) are attendance classes. The attendance requirement is 80%.

The learning outcomes are (1) deepened and extended competencies of the three CAS programs, which are selected independently and achieved by attending further courses and events, and (2) competencies for realistically design a data science and machine learning project and communicate critically in writing and orally such projects. The conceived project contains the deepened and extended

competencies and serves as implementation basis for the MAS thesis.

The participants suggest their learning objectives for deepening and extending their competences. The module responsible adjusts the suggestions together with the participants and finally approves them.

The assessment is an oral or written presentation of the project concept design and the plan of the deepening and expanding courses and events to be attended.

A multiyear experience with data science and machine learning projects is required, i.e. from the three CAS.

The learning methods include lectures, online courses, seminars, workshops, events and independent work with extended intelligence tools, typically with data science and machine learning software libraries.

The module language is English.

3. Performance Assessments

Assessments

The assessments are the following:

a. A written or oral performance assessment for the MAS Module
b. A written MAS thesis
c. An oral presentation of the MAS work and thesis

Based on the assessment of the performance records and the fulfillment of the other performance requirements, the program management decides on the passing and granting of the MAS degree.

The program management guidelines on performance assessments regulate further details.
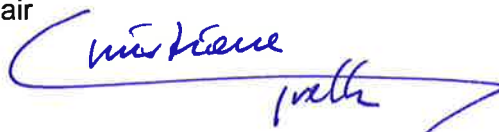
4. Final Regulations

Entry into force

The present plan shall enter into force on 01.11.2022.

15.09.2022

Released by the program management:

Chair

Prof. Dr. Christiane Tretter

06.12.2022

Adopted by the Faculty of Science, University of Bern:

Dean

Prof. Dr. Marco Herwegh